

In the claims:

1. (Once amended) A humanized anti-TAG-72 CC49 antibody comprising:
a light chain Complementarity Determining Region (L-CDR)1, a L-CDR2,
and a L-CDR3; and a heavy chain Complementarity Determining Region (H-
CDR)1, a H-CDR2, and a H-CDR3,
wherein L-CDR3, H-CDR1, H-CDR2 and H-CDR3 comprise murine
monoclonal CC49 antibody Complementarity Determining Regions (CDRs) and
at least one of L-CDR1 and L-CDR2 comprises a human monoclonal LEN
antibody Complementarity Determining Region (CDR),
wherein the humanized CC49 antibody retains binding affinity for TAG-
72 and has reduced immunogenicity, as compared to a parental humanized CC49
antibody.

2. (Once amended) The humanized antibody of claim 1, wherein L-CDR1 comprises
the human monoclonal LEN antibody CDR.

Please cancel claim 3.

4. (Once amended) The humanized antibody of claim 1, wherein L-CDR2 comprises
the human monoclonal LEN antibody CDR.

Please cancel claim 5.

6. (Once amended) The humanized antibody of claim 1, wherein both L-CDR1 and
L-CDR2 comprise human monoclonal LEN antibody CDRs.

Please cancel claims 7-9.

10. (Once amended) The humanized antibody of claim 1, wherein the parental
humanized CC49 antibody comprises three light chain hypervariable regions and

three heavy chain hypervariable regions of the murine monoclonal CC49 antibody; a variable light chain framework of a human monoclonal LEN antibody, and a variable heavy chain framework of a human monoclonal 21/28'CL antibody.

11. (Once amended) A humanized anti-TAG-72 CC49 antibody comprising:
a light chain Complementarity Determining Region (L-CDR)1, a L-CDR2,
and a L-CDR3; and a heavy chain Complementarity Determining Region (H-
CDR)1, a H-CDR2, and a H-CDR3,

wherein at least L-CDR3, H-CDR1, H-CDR2 and H-CDR3 comprise murine CC49 monoclonal antibody Complementarity Determining Regions (CDRs) and wherein at least one amino acid at position 60, 61, 62, or 64 in the murine CC49 H-CDR2 is replaced with an amino acid at a corresponding position in the human monoclonal 21/28'CL antibody,

wherein the humanized CC49 antibody retains binding affinity for TAG-72 and has reduced immunogenicity, when compared to a parental humanized CC49 antibody.

12. (Once amended) The humanized antibody of claim 11, wherein an asparagine at position 60 in the murine CC49 H-CDR2 is replaced with a serine.
13. (Once amended) The humanized antibody of claim 11, wherein a threonine at position 97 of the murine CC49 L-CDR3 is replaced with a serine.

Please cancel claim 14.

15. (Once amended) The humanized antibody of claim 11, wherein L-CDR1 comprises a human monoclonal LEN antibody Complementarity Determining Region (CDR).

Please cancel claim 16.

- 61 D12
17. (Once amended) The humanized antibody of claim 11, wherein L-CDR2 comprises a human monoclonal LEN antibody CDR.

Please cancel claim 18.

- 2' D13
19. (Once amended) The humanized antibody of claim 11, wherein both L-CDR1 and L-CDR2 comprise human monoclonal LEN antibody Complementarity Determining Regions.

Please cancel claim 20.

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21. (Once amended) The humanized antibody of claim 11, wherein a glutamic acid at position 61 in the murine CC49 H-CDR2 is replaced with a glutamine.

22. (Once amended) The humanized antibody of claim 11, wherein an arginine at position 62 in the murine CC49 H-CDR2 is replaced with a lysine.

- D14
23. (Once amended) A humanized anti-TAG-72 CC49 antibody comprising:
a light chain Complementarity Determining Region (L-CDR)1, a L-CDR2, and a L-CDR3; and a heavy chain Complementarity Determining Region (H-CDR)1, a H-CDR2, and a H-CDR3,

any CDR1+2

wherein at least L-CDR3, H-CDR1, H-CDR2 and H-CDR3 comprise murine CC49 monoclonal antibody Complementarity Determining Regions (CDRs), and wherein a threonine at position 97 in the murine CC49 L-CDR3 is replaced with a serine,

wherein the humanized CC49 antibody retains binding affinity for TAG-72 and has reduced immunogenicity, when compared to a parental humanized CC49 antibody.

24. (Once amended) The humanized antibody of claim 23, wherein at least one amino acid of positions 60, 61, 62, or 64 in the murine CC49 H-CDR2 is replaced with an amino acid at a corresponding position in the human monoclonal 21/28'CL antibody.

Please cancel claim 25.

26. (Once amended) The humanized antibody of claim 23, wherein L-CDR1 comprises a human monoclonal LEN antibody Complementarity Determining Region (CDR).

Please cancel claim 27.

28. (Once amended) The humanized antibody of claim 23, wherein L-CDR2 comprises a human monoclonal LEN antibody CDR.

Please cancel claim 29.

30. (Once amended) The humanized antibody of claim 23, wherein both L-CDR1 and L-CDR2 comprise human monoclonal LEN antibody Complementarity Determining Regions.

Please cancel claims 31-33.

34. (Once amended) A humanized anti-TAG-72 CC49 antibody comprising:
a light chain Complementarity Determining Region (L-CDR)1, a L-CDR2, and a L-CDR3; and a heavy chain Complementarity Determining (H-CDR)1, a H-CDR2, and a H-CDR3,
wherein L-CDR1, L-CDR2, L-CDR3, H-CDR1, H-CDR2 and H-CDR3 are of a murine CC49 antibody, and

wherein (1) a threonine is at position 94 in the L-CDR3, (2) a serine is at position 97 in the L-CDR3, or (3) a threonine is at position 94 and a serine is at position 97 in the L-CDR3,

wherein the humanized CC49 antibody retains binding affinity for TAG-72 and has reduced immunogenicity, when compared to a parental humanized CC49 antibody.

35. (Once amended) The humanized antibody of claim 34, wherein the threonine is at position 94 in the L-CDR3.

Please cancel claims 36 and 37.

38. (Twice amended) A pharmaceutical composition, comprising a therapeutically effective amount of the humanized antibody of claim 1 in a pharmaceutically acceptable carrier.

Please cancel claim 39.

40. (Twice amended) A composition comprising a functional fragment of the humanized antibody of claim 1, wherein the functional fragment specifically binds TAG-72.

41. (Once amended) The composition of claim 40, wherein the fragment comprises an Fv, an Fab, or an F(ab')₂.

42. (Once amended) A method for treating a cancer in a patient comprising:
administering a therapeutically effective amount of the humanized antibody of claim 1 to the patient, thereby treating the cancer in the patient.

Please cancel claims 43-47.

Please add the following new claims:

- 48. (New) The humanized antibody of claim 2, wherein the human L-CDR1 comprises an amino acid sequence as set forth in SEQ ID NO: 7.
49. (New) The humanized antibody of claim 4, wherein the human L-CDR2 comprises an amino acid sequence as set forth in SEQ ID NO: 8.
50. (New) The humanized antibody of claim 6, wherein the human L-CDR1 comprises an amino acid sequence as set forth in SEQ ID NO: 7 and the human L-CDR2 comprises an amino acid sequence as set forth in SEQ ID NO: 8.
51. (New) The humanized antibody of claim 11, wherein a lysine at position 64 in the murine CC49 H-CDR2 is replaced with a glutamine.
52. (New) The humanized antibody of claim 11, wherein the amino acid at the corresponding position in the human monoclonal 21/28'CL antibody comprises an amino acid corresponding to position 12, 13, 14, or 16 of the amino acid sequence as set forth in SEQ ID NO: 11.
53. (New) The humanized antibody of claim 11, wherein the parental humanized CC49 antibody comprises three light chain hypervariable regions and three heavy chain hypervariable regions from the murine monoclonal CC49 antibody, a variable light chain framework from a human monoclonal LEN antibody, and a variable heavy chain framework from a human monoclonal 21/28'CL antibody.
54. (New) The humanized antibody of claim 15, wherein the human L-CDR1 comprises an amino acid sequence as set forth in SEQ ID NO: 7.
55. (New) The humanized antibody of claim 17, wherein the human L-CDR2 comprises an amino acid sequence as set forth in SEQ ID NO: 8.

56. (New) The humanized antibody of claim 19, wherein the human L-CDR1 comprises an amino acid sequence as set forth in SEQ ID NO: 7 and the human L-CDR2 comprises an amino acid sequence as set forth in SEQ ID NO: 8.
57. (New) The humanized antibody of claim 23, wherein the parental humanized CC49 antibody comprises three light chain hypervariable regions and three heavy chain hypervariable regions from the murine monoclonal CC49 antibody, a variable light chain framework from a human monoclonal LEN antibody, and a variable heavy chain framework from a human monoclonal 21/28'CL antibody.
58. (New) The humanized antibody of claim 24, wherein the amino acid at the corresponding position in the human monoclonal 21/28'CL antibody comprises amino acid 12, 13, 14, or 16, respectively, of an amino acid sequence as set forth in SEQ ID NO: 11.
59. (New) The humanized antibody of claim 24, wherein an asparagine at position 60 in the murine CC49 H-CDR2 is replaced with a serine.
60. (New) The humanized antibody of claim 24, wherein a glutamic acid at position 61 in the murine CC49 H-CDR2 is replaced with a glutamine.
61. (New) The humanized antibody of claim 24, wherein an arginine at position 62 in the murine CC49 H-CDR2 is replaced with a lysine.
62. (New) The humanized antibody of claim 24, wherein a lysine at position 64 in the murine CC49 H-CDR2 is replaced with a glutamine.
63. (New) The humanized antibody of claim 26, wherein the human L-CDR1 comprises an amino acid sequence as set forth in SEQ ID NO: 7.

64. (New) The humanized antibody of claim 28, wherein the human L-CDR2 comprises an amino acid sequence as set forth in SEQ ID NO: 8.
65. (New) The humanized antibody of claim 30, wherein the human L-CDR1 comprises an amino acid sequence as set forth in SEQ ID NO: 7 and the human L-CDR2 comprises an amino acid sequence as set forth in SEQ ID NO: 8.
66. (New) The humanized antibody of claim 34, wherein the serine is at position 97 in the L-CDR3.
67. (New) The humanized antibody of claim 34, wherein the threonine is at position 94 in the L-CDR3 and the serine is at position 97 in the L-CDR3.
68. (New) The humanized antibody of claim 11, wherein an asparagine at position 60 in the murine CC49 H-CDR2 is replaced with a serine, a glutamic acid at position 61 in the murine CC49 H-CDR2 is replaced with a glutamine, an arginine at position 62 in the murine CC49 H-CDR2 is replaced with a lysine, and a lysine at position 64 in the murine CC49 H-CDR2 is replaced with a glutamine.
69. (New) A kit comprising a container comprising the humanized antibody of claim 1 and instructions for using the humanized antibody.--

Remarks

The specification is amended herein to correct typographical errors. Support for the amendments at page 13, lines 11-14; page 15, lines 11-13; page 29, lines 9-16; and page 30, lines 7-8 can be found in the specification at page 8, lines 16-23 and in Figure 2. Support for the amendment at page 30, lines 9-10 can be found in the specification at page 15, lines 14-19 and in Figure 2.